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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/163,925	09/30/1998	CHRISTIAN D. KASPER	98-C-020(520	6051

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EXAMINER

NGUYEN, PHUONGCHAU BA

ART UNIT

PAPER NUMBER

2665

DATE MAILED: 11/06/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/163,925	<b>Applicant(s)</b> KASPER, CHRISTIAN D.	
	<b>Examiner</b> Phuongchau Ba Nguyen	<b>Art Unit</b> 2665	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE \_\_\_\_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 8-12-02 Amendment.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 10-17, 18-23, 26-7, 29-30, 32, 34, 35, 37, 38, 40 and 41 is/are rejected.
- 7) ☒ Claim(s) 8, 9, 25, 28, 31, 33, 36, 39 and 42 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All   b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                 | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____   |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)        | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ | 6) <input type="checkbox"/> Other: _____                                    |

***Claim Rejections – 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 5 is recites the limitation "the balance" in line 3. Claim 17 is recites the limitation "the start of packet interrupt" in line 6. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections – 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this

application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 1-7, 10-16, 19-23, 27, 29-30, 32, 34-35, 37-38, 40-41 are rejected under 35 U.S.C. 102(e) as being anticipated by Gardner (5,691,984).

**Regarding claim 1:**

Garden discloses a method of routing network-based data arranged in frames comprising the steps of:

receiving a first portion of a frame within a FIFO receive memory of a network device 7, wherein the first portion of the received frame includes data having preselected address fields {col.8, lines 5-12, 30-31};

transferring a burst of data, including preselected address fields, from the FIFO receive memory 2 to an external shared system memory 6 that exists between the network device 7 and a host processor 11;

generating an interrupt signal to the host processor indicative that the preselected address fields of the frame are present in the shared system memory {col.8, lines 24-27}; and

initiating within the host processor an address and look-up algorithm in address tables to determine frame routing based on the preselected address fields {col.4, lines 59-63}.

**Regarding claim 10:**

Gardner discloses a method of controlling network data flow arranged in frames comprising the steps of:

receiving at least a first portion of a frame containing data receive memory of a network device 7, wherein the first portion of the received frame includes data having preselected address fields {col.8, lines 5-12, 30-31};

transferring a burst of data, including preselected address fields, from the FIFO receive memory 2 to a shared system memory 6 that exists between a host processor 11 and the network device 7; and

generating an interrupt signal to the host processor indicative that the preselected address fields of the frame are present in the memory {col.8, lines 24-27}.

**Regarding claim 19:**

Gardner discloses a method of routing network-based data arranged in frames comprising the steps of:

receiving at least a first portion of a frame within a FIFO receive memory 2 of a network device 7, wherein the first portion of the received frame includes data having preselected address fields {col.8, lines 5-12, 30-31};

(DMA controller 3) selecting the amount of data to be transferred from the FIFO receive memory 2 based on the desired address fields to be analyzed by a host processor 11 {col.8, lines 66-67 and col.9, lines 1-15};

transferring a burst of data, including preselected address fields, from the FIFO receive memory 2 to a shared system memory 6 that exists between the network device 7 and the host processor 11;

generating an interrupt signal from the network device 7 to the host processor 11 indicative that the preselected address fields of the frame are present in the shared system memory 6 {col.8, lines 24-27}; and  
initiating an address and look-up algorithm to determine frame routing based on the preselected address fields {col.4, lines 59-63}.

**Regarding claim 27:**

Gardner discloses a system for routing network-based data arranged in frames (fig.2) comprising:

a FIFO receive memory 2 of a network device 7 for receiving at least a first portion of a frame, wherein the first portion of the frame includes data having preselected address fields {fig.5};

a host processor 11;

a shared system memory 6 that exists between the network device 7 and host processor 11 for receiving data, including the preselected address fields, from the FIFO receive memory 2;

a direct memory access unit 3 for transferring a burst of data from the FIFO receive memory 2 to the shared system memory 6; and

a communications processor 3 for selecting the amount of data to be transferred from the FIFO receive memory 2 to the shared system memory 6 based on the desired address fields to be analyzed by the host processor 11 {col.8, lines 66–col.9, line 2; col.4, lines 59–63}.

**Regarding claim 32:**

Gardner discloses a system for routing network-based data arranged in frames (fig.2) comprising:

a host processor (11; col.4, line 42) for analyzing transferred bursts of data and initiating an address and lookup algorithm for dispatching a frame to a desired destination {col.8, lines 66–col.9, line 2; col.4, lines 59–63};

a shared memory (Central Shared Memory 6) for receiving data, including any preselected address fields (fig.5); and

a network device (switch ports 7) having:



a plurality of ports (12, col.4, line 42), each port including a FIFO receive memory 2 for receiving at least a first portion of a frame, wherein the first portion of the frame includes data having preselected address fields (fig.5);

a direct memory access unit 3 for transferring a burst of data from the receive memory 2 to the shared system memory 6; and

a communications processor 3 for selecting the amount of data to be transferred from the receive memory 2 based on the desired address fields to be analyzed by the host processor 11 {col.4, lines 59-63}.

**Regarding claim 38:**

Gardner discloses a network controller (fig.2) having:

a plurality of ports 12 {col.4, line 42}, each port including a FIFO receive memory 2, for receiving at least a first portion of a frame, wherein the first portion of the frame includes data having preselected address fields (fig.5);

a direct memory access unit 3 for transferring a burst of data from the FIFO receive memory 2, to an external system memory (Central Shared Memory

6) jointly shared with a host processor (Central Switch Intelligence 11; col.4, line 42); and

a communications processor 3 for selecting the amount of data to be transferred from the FIFO receive memory 2, based on the desired address fields to be analyzed by the host processor { col.8, lines 66–col.9, line 2}.

**Regarding claims 2, 11, 20:**

Gardner discloses transferring data from the FIFO receive memory 2 through a direct memory access unit 3 of the network device 7 {Gardner, fig.2}.

**Regarding claims 3, 12, 21:**

Gardner discloses generating an interrupt signal to the host processor 11 from the direct memory access unit 3 after the direct memory access unit 3 has transferred data to the shared system memory 6 {col.8, lines 24–27, Gardner}.

**Regarding claims 4, 13:**

Gardner discloses selecting (by DMA controller 3) the amount of data to be transferred from the FIFO receive memory 2 based on the desired address fields to be analyzed by the host processor 11 {col.8, lines 66-67 and col.9, lines 1-15, Gardner}.

**Regarding claims 5, 14, 22:**

Gardner discloses receiving the balance of the frame completely within the shared system memory 6 {col.8, lines 49-59, Gardner}.

**Regarding claims 6, 15, 23:**

Gardner discloses generating an end-of-frame interrupt when a frame has been completely received within the shared system memory 6 {col.7, lines 28-31, 32-34; col.9, lines 8-12; col.10, lines 17-20, 37-39}.

**Regarding claims 7, 16, 24:**

Gardner discloses generating a start-of-packet interrupt to a communications processor within the network device when the data received

within the FIFO receive memory has reached a desired watermark value {col.8, lines 59-64, Gardner}.

**Regarding claims 29, 34, 40:**

Gardner discloses comprising a FIFO bus (Arbitrated Interchip Bus 5; fig.2, Gardner) between the direct memory access unit 3 and the FIFO receive memory 2 on which data is transferred from the FIFO receive memory 2 and through the direct memory access unit 3 to the shared system memory 6.

**Regarding claims 30, 35, 41:**

Gardner discloses comprising a controller bus (Arbitrated Interchip Bus 5) connected between the communications processor 11 and the direct memory access unit 3 through which data transfer commands are issued from the communications processor 11 to the direct memory access unit 3 to transfer data {col.4, lines 53-54 & 59-63}.

**Regarding claim 37:**

Gardner discloses said receive memory comprising a first-in/first-out (FIFO) receive memory {Gardner, fig.2, FIFO 2}.

***Claim Rejections – 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 18 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gardner in view of Minagawa (5,542,110).

Gardner discloses arbitrating use of a system bus 5 but not between the direct memory access unit 3 and a bus arbitration unit.

However, in the same field of endeavor, Minagawa discloses a bus control circuit 20 in figure 3 (bus arbitration unit) connecting to the system bus and DMA controller 13. Therefore, it would have been obvious to an artisan to

apply Minagawa's teaching into Gardner's system and the motivation being to obtain the bus's right for DMA so that the DMA may begin to transfer data on the bus 20 {col.5, lines 30-42, Minagawa}.

*Allowable Subject Matter*

7. Claims 8-9, 25, 28, 31, 33, 36, 39 and 42 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. Claim 17 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

*Response to Arguments*

9. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.


10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuongchau Ba Nguyen whose telephone number is 703-305-0093. The examiner can normally be reached on Monday-Friday from 10:00 a.m. to 3:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on 703-308-6602. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4700.



Phuongchau Ba Nguyen  
Examiner  
Art Unit 2665



11/4/02